

What is claimed is:

- 1    1.     A method for facilitating handover between base stations in a communication  
2    system comprising:  
3        determining signal strength fluctuation associated with transmission from a first  
4        base station to obtain a first result;  
5        determining signal strength fluctuation associated with transmission from a  
6        second base station to obtain a second result; and  
7        combining the first and second results to obtain a hysteresis factor for handover.
- 1    2.     The method of claim 1, wherein determining signal strength fluctuation associated  
2    with transmission from the first base station comprises computing standard deviation of  
3    received signal strength associated with the transmission.
- 1    3.     The method of claim 2, wherein computing standard deviation comprises:  
2        averaging measured signal strength associated with transmission from the first  
3        base station over a long interval to obtain a long term average;  
4        averaging measured signal strength associated with transmission from the first  
5        base station over a short interval to obtain a short term average;  
6        subtracting the long term average from the short term average to obtain an  
7        intermediate result; and  
8        determining standard deviation of the intermediate result.

- 1 4. The method of claim 3, wherein the standard deviation is recursively determined  
2 over a span of transmission samples from the first base station.
- 1 5. The method of claim 4, wherein determining the standard deviation includes using  
2 a memory factor for weighting.
- 1 6. The method of claim 5, wherein the memory factor is selected to provide  
2 exponential weighting.
- 1 7. The method of claim 3, wherein the intermediate result is a function of a delay  
2 factor that depends on a first averaging window for the long term average and a second  
3 averaging window short term average.
- 1 8. The method of claim 7, wherein the first and second averaging windows each  
2 have a fixed length.
- 1 9. The method of claim 1, wherein combining the first and second results involves  
2 adding them together and then multiplying them by a scaling factor.
- 1 10. The method of claim 1 further comprising:  
2 calculating a handover cost function as a function of the hysteresis factor;  
3 selecting a base station based on the handover cost function.
- 1 11. The method of claim 6, wherein the memory factor is equal to 0.1.
- 1 12. The method of claim 9, wherein the scaling factor is in the range of 1.5 to 2.

1 13. A machine-readable medium having stored thereon a set of machine-executable  
2 instructions that, when executed by a data-processing system, cause the system to  
3 perform a method for facilitating handover between base stations in a communication  
4 system, the method comprising:

5 determining signal strength fluctuation associated with transmission from a first  
6 base station to obtain a first result;

7 determining signal strength fluctuation associated with transmission from a  
8 second base station to obtain a second result; and

9 combining the first and second results to obtain a hysteresis factor for handover.

1 14. The machine-readable medium of claim 13, wherein determining signal strength  
2 fluctuation associated with transmission from the first base station comprises computing  
3 standard deviation of received signal strength associated with the transmission.

1 15. The machine-readable medium of claim 14, wherein computing standard  
2 deviation comprises:

3 averaging measured signal strength associated with transmission from the first  
4 base station over a long interval to obtain a long term average;

5 averaging measured signal strength associated with transmission from the first  
6 base station over a short interval to obtain a short term average;

7 subtracting the long term average from the short term average to obtain an  
8 intermediate result; and

9 determining standard deviation of the intermediate result.

- 1 16. The machine-readable medium of claim 15, wherein the standard deviation is  
2 recursively determined over a span of transmission samples from the first base station.
- 1 17. The machine-readable medium of claim 16, wherein determining the standard  
2 deviation includes using a memory factor for weighting.
- 1 18. The machine-readable medium of claim 17, wherein the memory factor is selected  
2 to provide exponential weighting.
- 1 19. The machine-readable medium of claim 15, wherein the intermediate result is a  
2 function of a delay factor that depends on a first averaging window for the long term  
3 average and a second averaging window short term average.
- 1 20. The machine-readable medium of claim 19, wherein the first and second  
2 averaging windows each have a fixed length.
- 1 21. The machine-readable medium of claim 13, wherein combining the first and  
2 second results involves adding them together and then multiplying them by a scaling  
3 factor.
- 1 22. The machine-readable medium of claim 13, wherein the method further  
2 comprises:  
3 calculating a handover cost function as a function of the hysteresis factor;  
4 selecting a base station based on the handover cost function.

- 1 23. The machine-readable medium of claim 18, wherein the memory factor is equal to  
2 0.1.
- 1 24. The method of claim 21, wherein the scaling factor is in the range of 1.5 to 2.